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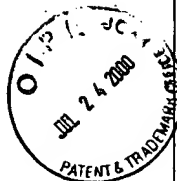
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re original application of:

Applicants : Le Li, -Jian-Feng Li and Sadeg M. Faris
 Serial No. : 09/287,579
 Filed : April 6, 1999
 Title of Invention : ELECTRO-OPTICAL GLAZING STRUCTURES
 HAVING SCATTERING AND TRANSPARENT
 MODES OF OPERATION AND METHOD AND
 APPARATUS FOR MAKING THE SAME
 Examiner : Mike Qi
 Group Art Unit : 2871
 Attorney Docket : 105-067USA000

Honorable Commissioner of Patents
 and Trademarks
 Washington, DC 20231

RESPONSE TO RESTRICTION REQUIREMENT

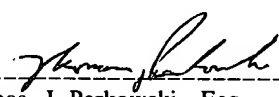
Sir:

In response to the Restriction Requirement mailed in the present Application on June 15, 2000, Applicants elect the invention group I "drawn to PSCT (polymer stabilized cholesteric texture) - based electro-optical glazing structure, classified in class 349, subclass 162" as defined by Claims 1-4 and 7-20.

The Commissioner is hereby authorized to charge any fee deficiencies to Deposit Account 16-1340. A copy of this document is enclosed herewith.

Respectfully submitted,

Dated: July 17, 2000


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for switching said electro-optical glazing panel to said second optical state of operation in order to induce said electro-optical glazing structure into said transmission mode of operation].

2. (Amended) The [An] electro-optical glazing structure of claim 1, which has total-scattering and total-transmission modes of operation for improved control over the flow of electromagnetic radiation within the solar region of the electromagnetic spectrum.

3. (Amended) The electro-optical glazing structure of claim 2, in which the modes of operation [can be electrically-activated or switched, while avoiding] avoid the use of energy absorbing mechanisms.

4. The electro-optical glazing structure of claim 2 which has a broad band of operation, including the near-IR, visible and near-UV portions of the electromagnetic spectrum.

7. (Amended) The [An] electro-optical glazing structure of claim 1, wherein the liquid crystal material comprises a liquid crystal material [having uniform optical characteristics and is constructed using low-cost PSCT polymer materials].

8. (Amended) The [A PSCT-based] electro-optical glazing structure of claim 7 wherein said PSCT liquid crystal material comprises a polymer lacking [that uses a polymer which does not have the liquid crystalline phase, i.e. the polymer does not have] the mesogenic group. ?

9. (Amended) The [A PSCT-based] electro-optical glazing structure of claim 7 wherein said PSCT liquid crystal material comprises [that uses] dichroic dyes [in a low cost PSCT material].

13. (Amended) The [A PSCT-based] electro-optical glazing structure of claim 1, wherein an insulating layer is disposed on top of an electrically-conductive film supported by each float-glass substrate [that uses low cost glass substrates with insulating layers]. 110

14. (Amended) The [A PSCT-based] electro-optical glazing structure of claim 1, wherein said liquid crystal material comprises a surfactant [made using a special additive] which eliminates liquid crystal.

Please add new claims ³²⁻³⁹ 21-29 as follows:

32 -21. The electro-optical glazing structure of claim 7, wherein said PSCT liquid crystal material comprises a chiral additive.

33 -22. The electro-optical glazing structure of claim 21, wherein said chiral additive comprises CB15 available from EMI.

34 -23. The electro-optical glazing structure of claim 7, wherein said PSCT liquid crystal material comprises a photo initiator.

35 -24. The electro-optical glazing structure of claim 23, wherein said photo initiator comprises one of: 2,6-Di-tert-butyl-4-methylphenol available from Aldrich, IG500 available from Cyba Geigy, and D1173 available from Cyba Geigy.

36 -25. The electro-optical glazing structure of claim 8, wherein said polymer comprises one of the following monomers: Ethylene Glycol Dimethacrylate (EGD) available from Aldrich, UV10 available from Master Bond, and UV157 available from Master Bond.

37 -26. The electro-optical glazing structure of claim 9, wherein said dichroic dyes comprise one of: D5, D35, and D52 available from EMI.

38 -27. The electro-optical glazing structure of claim 14, wherein said surfactant comprises Poly(Dimethylsiloxane).

39 -28. The electro-optical glazing structure of claim 1, wherein said liquid crystal material comprises a low molecular weight nematic liquid crystal material.

40 --~~28~~²⁹ The electro-optical glazing structure of claim ~~28~~²⁹, wherein said low molecular weight nematic liquid crystal material comprises at least one of the following: K-series single compound liquid crystal available from EMI of Germany, M-series single compound liquid crystal available from EMI of Germany, , E-series multiple compound liquid crystal available from EMI of Germany, ZLI-series multiple compound liquid crystal available from EMI of Germany, E7 liquid crystal available from EMI of Germany, E4A liquid crystal available from EMI of Germany, and P9615A liquid crystal available from SLCHEM of China. --

REQUIREMENTS UNDER 37 C.F.R. §1.121

As required under 37 C.F.R. §1.121, a clean set of the pending Claims, pursuant to the present Amendment, is as follows:

1. (Amended) An electro-optical glazing structure comprising:
an electro-optical glazing panel including liquid crystal material interposed between a pair of optically-transparent float-glass substrates, said electro-optical glazing panel having an electrically-switchable scattering mode of operation and electrically-switchable transmission mode of operation; and
an optical state switching mechanism for electrically-switching said electro-optical glazing panel into said electrically-switchable scattering mode of operation and into said electrically-switchable transmission mode of operation.
2. (Amended) The electro-optical glazing structure of claim 1, which has total-scattering and total-transmission modes of operation for improved control over the flow of electromagnetic radiation within the solar region of the electromagnetic spectrum.
3. (Amended) The electro-optical glazing structure of claim 2, in which the modes of operation avoid the use of energy absorbing mechanisms.
4. The electro-optical glazing structure of claim 2 which has a broad band of operation, including the near-IR, visible and near-UV portions of the electromagnetic spectrum.
7. (Amended) The electro-optical glazing structure of claim 1, wherein the liquid crystal material comprises PSCT liquid crystal material.
8. (Amended) The electro-optical glazing structure of claim 7, wherein said PSCT liquid crystal material comprises a polymer lacking the mesogenic group.
9. (Amended) The electro-optical glazing structure of claim 7, wherein said PSCT liquid crystal material comprises dichroic dyes.
13. (Amended) The electro-optical glazing structure of claim 1, wherein an insulating layer is disposed on top of an electrically-conductive film supported by each float-glass substrate.
14. (Amended) The electro-optical glazing structure of claim 1, wherein said liquid crystal material comprises a surfactant which eliminates liquid crystal flow streaks.
21. (New) The electro-optical glazing structure of claim 7, wherein said PSCT liquid crystal material comprises a chiral additive.
22. (New) The electro-optical glazing structure of claim 21, wherein said chiral additive comprises CB15 available from EMI.
23. (New) The electro-optical glazing structure of claim 7, wherein said PSCT liquid crystal material comprises a photo initiator.
24. (New) The electro-optical glazing structure of claim 23, wherein said photo initiator comprises one of: 2,6-Di-tert-butyl-4-methylphenol available from Aldrich, IG500 available from Cyba Geigy, and D1173 available from Cyba Geigy.
25. (New) The electro-optical glazing structure of claim 8, wherein said polymer comprises one of the following monomers: Ethylene Glycol Dimethacrylate (EGD) available from Aldrich, UV10 available from Master Bond, and UV15-7 available from Master Bond.
26. (New) The electro-optical glazing structure of claim 9, wherein said dichroic dyes comprise one of: D5, D35, and D52 available from EMI.

27. (New) The electro-optical glazing structure of claim 14, wherein said surfactant comprises Poly(Dimethylsiloxane).

28. (New) The electro-optical glazing structure of claim 1, wherein said liquid crystal material comprises a low molecular weight nematic liquid crystal material.

29. (New) The electro-optical glazing structure of claim 28, wherein said low molecular weight nematic liquid crystal material comprises at least one of the following: K-series single compound liquid crystal available from EMI of Germany, M-series single compound liquid crystal available from EMI of Germany, , E-series multiple compound liquid crystal available from EMI of Germany, ZLI-series multiple compound liquid crystal available from EMI of Germany, E7 liquid crystal available from EMI of Germany, E4A liquid crystal available from EMI of Germany, and P9615A liquid crystal available from SLCHEM of China.